

ABSTRACT

The present invention is a system and method for transmitting data symbols in a CDMA communication system including a transmitter having an antenna array and a receiver. The system generates a first and second data field of symbols, then encodes them to produce complex conjugates of the respective symbols. A first communication burst including the first and second data fields, which are separated by a midamble, over a first antenna, and a second communication burst produced using said complex conjugates of said first and second data fields, which are separated by a midamble, over a second antenna are then transmitted by the transmitter. The receiver then receives and decodes the first and second communication bursts to recover the first and second data fields.